UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,426	07/03/2003	Vikram Devdas	CISCP816	5113

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EXAMINER
TSEGAYE, SABA

ART UNIT	PAPER NUMBER
2662	

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 05 January 2005.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   This Office Action is in response to the amendment filed on 01/05/05. Claims 1-23 are

pending. Currently no claims are in condition for allowance.

Claim Rejections - 35 USC § 112

2.   Claims 12-14 and 21-23 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Claim 12, line 5, it is not clear whether the phrase "an identification tag" refers to the

same an identification tag cited in line 2.

Claim 21, line 6, it is not clear whether the phrase "an identification tag" refers to the

same an identification tag cited in line 2.

Claim Rejections - 35 USC § 103

3.   Claims 1-4, 8-11 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Smith et al. (US 2003/0074449) in view of Ghose et al. (US 2002/0004842).

Regarding claims 1, 8 and 17, Smith discloses, in Figs 3-5, a method for efficiently

transmitting GFP-encapsulated client data frames from a local transport interface (NE1) and at

least one local port (CX) associated therewith across a SONET/SDH transport network (120) to a

remote transport interface (NE2) and at least one remote port (XC) associated therewith, the

remote transport interface (NE2) having a buffer (226) for holing the GFP-encapsulated client

data frames received across the SONET/SDH transport network (120).

Further, Smith discloses a buffer-to-buffer flow control that regulates traffic along a link

between the transmitter port and the receiver port by controlling the rate at which the transmitter

can send data to the receiver (claimed receiving information from the remote transport interface).

The transmitter is able to transmit a frame along a link only if the receiver has indicated it can

accept the frame. The receiving port controls the transmission of frames by giving permission to

the sending port to send one or more frame to that particular receiving port (claimed transmitting

more GFP client data frames responsive to the information). Each port keeps track of the buffer

credit count, which is initialized to zero. For each frame transmitted, the credit count is

incremented by one, and for each frame received, the credit count is decreased (claimed tracking

the number of GFP-encapsulated client data frames). Smith, further, discloses that the data

packet protocol rules dictate that the number of packets in transit on the link cannot exceed the

buffer credits assigned to the link. This ensues that the buffer does not overflow (0093) (claimed

without consideration of loss or corruption of encapsulated client data frames so that the

SONET/SDH transport network from the local transport interface to the remote transport

interface is efficient utilized).

However, Smith does not disclose a flow control based on the number of bytes available

in the remote transport interface buffer.

Ghose teaches buffer-to-buffer credits for implementing flow control based on the

number of bytes received successfully (page 4, 0055-0057) and tracking the number of bytes of

GFP-encapsulated client data frames in transit from the local transport interface to the remote

transport interface (0057-0062).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to use the teaching from Ghose of a flow control based on the number of bytes to the

frame based protocol networks disclosed by Smith. The suggestion/motivation for doing so

would have been that Smith discloses on column 5, paragraph 0093 "the number of packets in

transit on the link cannot exceed the buffer credits assigned to the link", therefore combing the

flow control base on the number of bytes with the number of packets in transit on the link cannot

exceed the buffer credits assigned to the link would greatly improved end-to-end latency and

implement reliable delivery (0054).

Regarding claims 2, 3, 9, 10, 18 and 19, Smith discloses the method wherein the client

data comprises Fiber Channel signals and gigabit Ethernet signals (page 2, 0033-0035).

Regarding claims 4, 11 and 20, Smith discloses the method wherein the receiving step

further comprises: initially negotiating with the remote transport interface for the total amount of

space in the buffer reserved for GFP-encapsulated client data frames received from the local

transport interface (page 8, 0144-0156).

4.   Claims 5-7, 12-16 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Smith et al. in view of Ghose et al. as applied to claims 1, 8 and 17 above, and further in

view of Tate et al. (US 2003/0185223).

Smith in view of Ghose discloses all the claim limitations as stated above. Further, Smith

discloses a frame oriented client signal such as a Fiber Channel or Ethernet signal. According to

the IEEE standard 802.1Q Ethernet frames are tagged. However, Smith does not expressly

disclose sending/receiving an identification tag for each of the GFP-encapsulated client data

frames.

Tate teaches a GFP encapsulation scheme to a provider device being arranged for

exchanging tagged frames with a bridge having at least two Ethernet interfaces (0031-0037).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to use the teaching from Tate of exchanging tagged frames to the system disclosed by

Smith in view of Ghose. The suggestion/motivation for doing so would have been that Smith

discloses a frame oriented client signal such as a Fiber Channel or Ethernet signal, therefore

combing the identification tag with a frame oriented client signal would allow a particular

Ethernet interface to be informed of a failure on a corresponding service unit port (0029).

Response to Arguments

5.   Applicant's arguments filed 01/05/05 have been fully considered but they are not

persuasive. Applicant argues (Remarks; page 7) that "no explanations given as to why the Ghose

patent which teaches a transport system for LANs is to be combined with the long haul

SONET/SDH networks. These are different types of networks with different requirements."

Examiner agrees with Applicant that Smith and Ghose reference teach different types of

networks. However, the primary reference (Smith) discloses a buffer-to-buffer flow control

mechanism **over a packet oriented** (SDH/SONET) transmission network except for a flow

control based on the number of bytes. Ghose teaches **buffer-to-buffer credits (over a packet oriented transmission network)** for implementing **flow control** based on the number of **bytes** received successfully. Ghose reference is used to show how **bytes** are used for implementing flow control over a packet oriented transmission network. The combination of Smith reference and Ghose reference is proper and therefore, the rejection is maintained.

Further, Applicant argues (Remarks, page 8) that Ghose patent teaches **the use of NAKs to handle loss or corruption of packets in its TCP/IP based network protocol. Unlike these systems, the present invention uses a credit mechanism for end-to end flow control.** It is respectfully submitted that the rejection is based on the combined teaching of the Smith patent and the Ghose patent, and that the Smith patent, as pointed out above does teach this feature.

Conclusion

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.
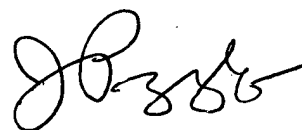
however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Saba Tsegaye whose telephone number is (571) 272-3091. The

examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ST
July 16, 2005

JOHN PEZZLO
PRIMARY EXAMINER